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Compiled and written by the staff of the Republican Policy Committee—Larry E. Craig, Chairman

that these experiments have already been done, over and over, for the past 40 years. Further, the data collected will be much less valuable than previous data that has been collected for several reasons, including that the monkeys will only be in space for 2 weeks, they will be restrained, and they will be sedated. Humans in space are not sedated, they have been in space for as long as 439 days at a time, and they are not restrained. When the space program first started, before humans had gone into space, these flights would have made sense, but they do not make sense now.

Given that no useful data will be obtained, there is no justification to subject the monkeys to the treatment they will receive under these programs. They will have the top of their skulls removed in order to attach electrodes, other electrodes will be attached to their eyes, and they will have other probes inserted in their abdominal cavities. They will be physically restrained from moving for the entire 2-week flights. Once the flights are over, they will be taken care of, and treated as heroes in Russia, but that is hardly a justification for their earlier mistreatment.

It appears that most Senators who support the motion to table are the same Senators who typically oppose NASA funding, and those Senators who are against it are the same Senators who typically favor NASA funding. This division is unfortunate because the Smith motion to table is not intended to harm NASA, and will indeed help it. Cutting funding for this unnecessary project will result in NASA having more funding for meritorious projects.

We urge Senators not to look at this motion to table as an anti-NASA motion. Agreeing to it will stop \$15.5 million from being wasted on two totally unnecessary space flights, and will prevent America from participating in a project that will needlessly subject monkeys to great pain and discomfort. Both budget watchdog and animal rights groups favor this motion. We urge Senators to support it as well.

Those opposing the motion to table contended:

The purpose of these flights is to gather data on the extremely harmful physiological effects of weightlessness. Astronauts in space suffer rapid calcium loss from their bones; their muscles quickly atrophy; their bodies' systems for maintaining balance deteriorate; their immune systems weaken; their sleep patterns change. Most Senators probably find this list familiar--these problems are also the most common problems associated with old age. Finding the causes of these problems in space flight in young, healthy individuals will quite possibly lead to methods of preventing these ailments in the elderly on Earth. For astronauts, it will make space flight much less grueling and dangerous, and will make longer space flights possible.

Some Senators have pointed out that we should conduct, and do conduct, experiments on humans to study weightlessness, and that we therefore do not need to conduct experiments on animals. This argument is wrong for space research for the same reason that is wrong for research on earth. A tremendous amount of medical research has been conducted on both animals and humans on earth, yet that prior research does not obviate the need for further research. As medical science moves forward, more questions are always raised. Sometimes it is appropriate to use human subjects; sometimes it is appropriate to use animal subjects first. Senator Frist, who is a heart surgeon, understands this point from years of practical experience. As a pioneer in transplant surgery, he often conducted experimental operations on animals to discover the techniques that are necessary to perform human transplants successfully. In those experiments, he followed humanitarian guidelines for the treatment of animals. The same humanitarian guidelines will be followed on the Bion missions.

In the case of the Bion missions, the use of monkeys is appropriate for numerous reasons. Astronauts go through a regular series of countermeasures in space, including rigorous physical exercise, in order to lessen the harmful effects of weightlessness. These countermeasures obviously result in data distortions. Another reason is that using monkeys makes it possible to control for more factors. The monkeys will not move about and they will eat exactly the same amount of food at the same time each day. Data with human subjects could even be affected by such factors as the mental stress involved in performing different tasks on different days. The data collected on the Bion missions will not suffer from such distortions.

The high-profile nature of this research has made the Bion space flights a target of extremist groups that oppose all use of animals in medical research. In response to criticisms, the missions have been subjected to four independent peer reviews, and in each case their value has been emphatically endorsed. We know of no other medical research project that has been as exhaustively reviewed over the years as these space flights have been. The Bion space flights are not a boondoggle supported only by NASA scientists--independent researchers have repeatedly endorsed their value.

The Bion space program is primarily a Russian space program. Over the years, Russia has spent approximately \$500 million. France and the United States have now joined in the program. This year, the United States will put up less than \$7 million. In return for this modest investment, valuable data will be collected for improving the safety of space flight, and that data may well prove very useful in treating medical problems on Earth, particularly problems associated with aging. We urge our colleagues not to substitute their scientific judgment for the judgment of experts. We urge them to support this amendment.